



RakPak™ VXA-1 User's Guide

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PREFACE

PRODUCT WARRANTY INFORMATION

The Exabyte VXA-1 RakPak is warranted to be free from defects in materials, parts and workmanship, and conforms to the current product specification.

For the specific details of your warranty refer to your sales contract or contact the company from which the tape drive was purchased.

The warranty for the RakPak shall not apply to failures caused by:

- ◆ Physical abuse or use not consistent with the operating instructions or product specifications.
- ◆ Use of any type of data cartridge other than an Exabyte VXAtape or an Exabyte approved VXA data cartridge.
- ◆ Use of any type of cleaning material other than an Exabyte VXA Cleaning Cartridge or an Exabyte approved cleaning cartridge.
- ◆ Repair or modification by any one other than Exabyte's personnel or agent in a manner differing from the maintenance instructions provided by Exabyte.
- ◆ Removal of the Exabyte identification label(s).
- ◆ Physical abuse due to improper packaging of returned drives.

If problems with the RakPak occur, contact Exabyte or your service provider.

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INTRODUCTION

The VXA RakPak™ is a 1u high unit designed to store and manage enterprise wide, mission-critical data. It can be configured with one or two VXA-1 tape drives. VXA technology far exceeds the functionality of traditional streaming tape devices, while maintaining industry standards that allow easy integration into existing storage environments. This chapter describes the RakPak components, tape drive components and specifications.

RAKPAK COMPONENTS

The RakPak is an external design that integrates one or two VXA-1 tape drives within a convenient rack-mount chassis that fits securely into standard 19" equipment racks. Optionally, the unit ships with rubber feet that can be applied to the bottom of the unit for use on a flat surface such as a tabletop. RakPak units can be stacked in either the rack-mount or tabletop configuration.

Rubber feet and screws for securing a second VXA-1 drive are included in an accessory packet that ships with the RakPak in either a one-drive or two-drive configuration.

The VXA-1 drives feature a low voltage differential (LVD) SCSI interface. Cabling for the drive (excluding the host-to-device SCSI cable) is included within the RakPak as are cooling and power supply components. Each RakPak is built for two drives, although the unit will function with either one or two.

The Chassis

The RakPak chassis is painted sheet metal, with the exception of the back panel, which is unpainted. Black is the standard color; however, custom colors may be available on a Request for Quote (RFQ) basis through your salesperson or account manager.

Front Panel

The front of the RakPak unit features side mounting brackets on either end, two bays for one or two VXA-1 drives, a VXA LED display, and an on/off power button. These are illustrated in Figure 1.



Figure 1 RakPak Unit, Front View

One-Drive Unit

A RakPak configured with one VXA-1 drive features the drive bezel and door and an optional panel to cover the open bay. The panel is made of painted sheet metal to match the chassis and can be secured on the bottom of the unit.

The standard color for the front bezel is Raven Black (GE Cyloloy color code 71722). Custom colors may be available on a Request for Quote (RFQ) basis through your salesperson or account manager.

The door, through which tapes are loaded and unloaded, is mounted directly to the front bezel.

The Eject button is used to ready the tape for removal and eject the VXA tape cartridge. Press the Eject button once to eject the cartridge.

The SCSI Activity LED (LED #4 in Figure 2) indicates SCSI commands are being processed by the drive. In addition to this LED, there are three other LEDs on the front bezel that indicate operational status. LED operations are outlined in Table 13. In addition to LEDs #1 through #4, there is a power LED on the right front side of the RakPak's chassis.

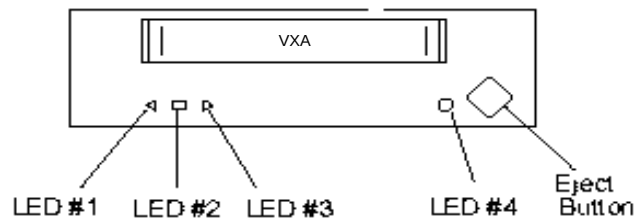


Figure 2 Front Bezel and Door

Two-Drive Unit

The front panel of the two-drive RakPak differs from the One-drive unit only in that both bays include VXA drives.

Mounting Brackets

The RakPak's mounting brackets are designed to support the RakPak in a standard 19" equipment rack. Rubber feet for tabletop use of the RakPak are included in a packet that

ships with the RakPak. When used as a tabletop unit, the mounting brackets for the RakPak may be removed.

Rear Panel

The RakPak was designed to easily integrate into a storage environment, so all components for integration are conveniently located on the rear panel.

Rear panel components include two SCSI ID switches, four SCSI Ultra 2 LVD/SE wide connectors, AC power receptacle, on/off switch, and a security slot. These components are illustrated in Figure 3.

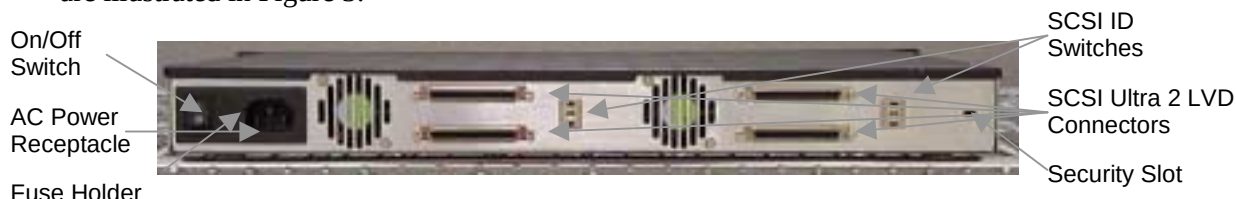


Figure 3 Rear Panel Components

SCSI Connectors

Two standard 68-pin wide SCSI Ultra 2 LVD/SE connectors are provided for each VXA-1 drive. One connector is used to connect the drive to the SCSI bus and the other enables termination or daisy chaining. Due to a SCSI Ultra 2 wide bus length limitation of 1.5 meters, operation of the RakPak in single-ended mode is discouraged.

SCSI ID Switches

VXA-1 drives are shipped from the factory with a default setting of 10 or 11. Use the + and – tabs above and below the SCSI ID indicator to change the settings.

AC Power Receptacle

Power to the RakPak unit is provided through a grounded, fused AC power connector accessed from the rear panel. A power cable is shipped with the RakPak unit. The RakPak's power supply supports one or two VXA-1 drives.



**Caution
Attention
Precaución
Vorsicht**

Replace the fuse only with 250 VAC, 5A fuse.

Remplacez le fusible seulement par 250 VCA, le fusible Ä.

Substituya el fusible solamente por 250 VAC, fusible 5A.

Ersetzen Sie die Sicherung nur durch 250 VAC, Sicherung Ä.

On/Off Switch

The RakPak features an on/off button on the front panel as well as an on/off switch on the rear panel. Either switch can be used to power off the RakPak. Both switches must be in the ON position for the RakPak to operate.

Security Slot

A small security slot is included on the rear panel of the RakPak. This slot allows use of a twist-type cable to help secure the unit from theft.

Labels

The RakPak ships with three labels on the rear panel – an agency certification label, product label, and notation label for the AC power receptacle:



Figure 4 Agency Label



Figure 5 Serial Number Label

Replace only with 250 VAC, 5A fuse

Figure 6 Notation Label

Bottom Panel

The bottom of the RakPak unit features screw holes for securing VXA-1 drives within the bays and two label slots through which drive labels can be seen.

Label slots
with visible
labels.



Figure 7 Bottom Panel



Caution
Attention
Precaución
Vorsicht

Using screws other than the M3 x 4 mm Phillips screws, provided with the RakPak, can seriously damage the VXA-1 drives.

L'utilisation visse autre que le M3 X les vis Phillips de 4 millimètres, si avec le Rakpak, peut sérieusement endommager les lecteurs VXA-1.

El usar atornilla con excepción del M3 x los tornillos Phillips de 4 milímetros, con tal que con el Rakpak, puede dañar seriamente los mecanismos impulsores VXA-1.

Das Verwenden schraubt anders als das M3 x die 4-Millimeter-Kreuzkopfschrauben, vorausgesetzt mit dem Rakpak, kann die Laufwerke VXA-1 ernsthaft beschädigen.

Labels

The label slots allow viewing of the VXA-1 drive labels. If the RakPak only houses one drive, the remaining label slot is covered by the optional front panel.

Each VXA-1 drive has three bottom labels – a part number label, a serial number label, and a revision level label:



Figure 8 Part Number Label



Figure 9 Serial Number Label



Figure 10 Revision Level Label

Side Panel Components

Both side panels of the RakPak feature cooling vents through which air is drawn to cool the VXA-1 tape drives and power supply. Air drawn in is exhausted through two fans at the rear of the unit.



**Caution
Attention
Precaución
Vorsicht**

Please do not block the air pathways – either at the side vents or at the rear of the unit near the fans.

Veillez ne pas bloquer les voies d'air - aux événements latéraux ou à l'arrière de l'unité près des ventilateurs.

No bloquee por favor los caminos del aire - en los respiraderos laterales o en la parte posterior de la unidad cerca de los ventiladores.

Bitte blocken Sie die Luftbahnen - entweder nicht an den seitlichen Entlüftungsöffnungen oder an der Rückseite der Maßeinheit nahe den Ventilatoren.

SPECIFICATIONS

The following section describes the RakPak and VXA-1 tape drive product specifications. Table 1 lists the data capacities for the available VXAtape® models. VXAtape is the media used within the VXA-1 tape drive.

Table 1 Data Capacities

VXAtape Model	Capacity, Native	Capacity, Compression (2x compression ratio)	Tape Length
V6	12 GB	24 GB	62 m
V10	20 GB	40 GB	107 m
V17	33 GB	66 GB	170 m

Table 2 provides the results of intensive testing and development of the VXA-1 tape drive. Specifications assume a 2:1 compression. Capacity and throughput are dependent upon the type of data and system configuration.

Table 2 VXA-1 Tape Drive Specifications

Feature	Specification
Transfer rate, native	Host matching up to 3MB/sec native, 6MB/sec compressed Aggregate (2-drive unit) up to 6 MB/sec native, 12 MB/sec compressed
Data compression	2:1 using Adaptive Lossless Data Compression (ALDC)
Burst transfer rate (maximum)	80MB/sec
Search speed	128 MB/sec
Reliability (MTBF)	Mean time between failures 300,000 hours @ 12% duty cycle
Repair time (MTTR)	Mean time to repair – 30 minutes
Bit error rate	Less than 1×10^{-17}
Host interface	Wide SCSI Ultra 2 LVD
Partitions	2
Buffer	4 megabits
Error detection and correction	4 layer Reed Solomon
Format	Discrete Packet Format

Head Configuration	4 OverScan Read heads, 2 Write heads, 4 heads total
Data media	VXAtape cartridges with Advanced Metal Evaporated (AME) media No formatting or conditioning required prior to use. 30-year archival life Use of other cartridges is prevented
Loads/unloads	50,000 cycles
VXAtape load time	45 sec
VXAtape unload time	45 sec

Size and Weight

Table 3 provides physical specifications for the RakPak.

Table 3 Physical Specifications

Feature	One-drive RakPak	Two-drive RakPak
Height	4.4 cm (1.75 inches)	4.4 cm (1.75 inches)
Length	27.3 cm (10.75 inches)	27.3 cm (10.75 inches)
Width	43.2 cm (17 inches)	43.2 cm (17 inches)
Weight	5.0 kg (11 pounds)	6.0 kg (13.3 pounds)

Power

The RakPak's power supply operates at 100-240 VAC, 47/63 Hz nominal.

Environmental

Table 4 provides temperature and humidity specifications for the drive tape path.

Table 4 Temperature and Humidity Specifications

Specification	Operating ^a	Storage ^b / Nonoperating	Transportation ^a
Temperature range ^c	+10°C to +40°C (+50°F to 104°F)	-40°C to +60°C (-40°F to 140°F)	-40°C to +60°C (-40°F to 140°F)
Temperature variation	1°C per min; max. 10°C per hour (2°F per min; max. 18°F per hour)	1°C per min; max. 20°C per hour (2°F per min; max. 36°F per hour)	1°C per min; max. 20°C per hour (2°F per min; max. 36°F per hour)
Relative Humidity	20% to 80% non- condensing	10% to 90% non- condensing	10% to 90% non- condensing
Wet bulb	29°C (84°F) max.		
Altitude	-305 to 3050 m (-1,000 to 10,000 ft)	-305 to 3050 m (-1,000 to 10,000 ft)	-305 to 12,200 m (-1,000 to 40,000 ft)

^a The data cassette temperature and humidity must be stabilized in the specified environment for at least 24 hours.

^b The tape drive is in its original shipping container. When the tape drive is moved from a cooler storage environment to a warmer operating environment, it must acclimate in its packaging for 16 hours to prevent damage from condensation.

^cTemperature measurements are made in the tape path.

Table 5 defines the operating temperature and humidity ranges for the tape drive.

Table 5 Psychometric Temperature and Humidity Points

Point	Temperature	Humidity
A	10°C	80%
B	29°C	80%
C	40°C	34%
D	40°C	20%
E	10°C	20%

Air Flow Requirements

Adequate air flow must be provided for the tape drive(s) within the RakPak. The unit is designed to pull adequate air through the unit's side vents, so these must not be blocked.

The air flow around the tape drive(s) must be sufficient to prevent tape path temperatures from exceeding 40 C (104 F).

Particulate Contamination

The VXA-1 tape drive is designed to operate in environments that do not exceed the limits listed in Table 6.

Table 6 Particulate Size

Particle Size (Microns)	Number of Particles $\geq$ Particle Size per m ³	Number of Particles $\geq$ Particle Size per ft ³
0.1	8.8×10^7	2.5×10^6
0.5	3.5×10^7	1.0×10^6
5.0	2.5×10^8	7.0×10^6

Shock

The storage and nonoperating shock levels indicate how much shock the tape drive can withstand when it is not operating. The operating shock levels indicate how much shock the tape drive can withstand while reading and writing data. After withstanding this amount of shock, the tape drive operates normally. Table 7 lists the shock specifications.

Table 7 Shock Specifications

Operating	Nonoperating ^{a, b}	Transportation ^c
6 g for 11 msec ^d	60 g peak for 11 msec 50 g peak for 11 msec	ISTA Project 2

^aThe tape drive has been unpacked, but no power is applied.

^bHalf-sine shock pulses are applied to each of the three orthogonal axes. (Three at 60 g at a rate not exceeding 1 shock per second. One at 50 g.)

^cThe tape drive is in its original shipping container.

^dThis is equivalent to a minimum of 20 shock pulses applied to each of the three orthogonal axes. The shock pulses are half-sine waves and are applied at a rate not exceeding 1 shock per second.

Vibration

Table 8 lists the vibration specifications of the RakPak.

Table 8 Vibration Specifications

Applied During Operation ^b (Read/Write)	Applied During Nonoperation ^{a, b}
5-500 Hz; 0.3 g peak, Swept sine @ 1 octave/min	5-500 Hz; 0.75 g peak, Swept sine @ 1 octave/min

^aThe tape drive has been unpacked, but power is not applied.

^bApplied to each of three orthogonal axes.

PACKAGING & SHIPPING

This chapter describes the packaging and shipping requirements for the RakPak unit.

SPECIFICATIONS

The RakPak is sealed in a static protection bag (Figure 11) and shipped with one unit per carton. The shipping carton and internal packing materials are designed so that the enclosed unit does not receive a damaging shock when the carton is dropped on any surface, corner, or edge from a height of 48 in (121.9 cm), at a velocity change of 30 in. (76.2 cm) per sec.



Figure 11 Static Protection Bag

Table 9 provides shipping dimensions and weight for the RakPak with both one and two VXA-1 tape drives.

Table 9 Shipping Dimensions and Weight

Carton	Weight	Dimensions
One-drive RakPak	Approximately 17 pounds	5.75 in. x 19.25 in. x 24.5 in.
Two-drive RakPak	Approximately 19.2 pounds	5.75 in. x 19.25 in. x 24.5 in.

The shipping cartons pass the tests described in the International Safe Transit Association (ISTA) Project 2.

When repacking and shipping a RakPak, use the original shipping carton and packing materials (or packaging obtained from Exabyte) to avoid damaging the unit. The shipping and packaging materials are not intended for shipping items other than RakPaks.

RAKPAK INSTALLATION

This chapter provides step-by-step instructions for installing the RakPak.

UNPACKING THE DRIVE

All Exabyte products are tested, inspected, and carefully packaged at the factory; however, shipping damage can occur. Follow the steps below for unpacking the drive.

1. Visually inspect the shipping container and notify your freight carrier immediately of any damage.
2. Place the shipping container on a flat, clean, stable surface. Carefully remove the unit. If the equipment is damaged, notify your supplier or Exabyte.
3. Save the original shipping container and packing materials in case future reshipment is necessary.

INSTALLING THE RAKPAK

1. Turn off power to the host computer.
2. Set the SCSI ID for each drive installed in the RakPak.

RakPaks configured with one VXA-1 tape drive ship with a default SCSI ID of 11. To change the SCSI ID, use the + and – tabs above and below the SCSI ID indicator on the rear panel of the RakPak (see Figure 3).

RakPaks configured with two VXA-1 tape drives ship with default SCSI IDs of 10 and 11. To change SCSI ID for either drive, use the + and – tabs above and below the respective SCSI ID indicator on the rear panel of the RakPak (see Figure 3).

3. Connect the SCSI cable.

The wide SCSI Ultra 2 LVD/SE cable must be a 68-pin high-density male connector, such as CCX part number CECB7200-03, Exabyte part number 120.00122, assuming you have a 68-pin connector on the SCSI controller. Due to a SCSI Ultra 2 wide bus length limitation of 1.5 meters, operation of the RakPak in single-ended mode is discouraged.



**Caution
Attention
Precaución
Vorsicht**

Use of SCSI cable other than that specified above is not recommended. System performance is guaranteed in LVD mode only.

L'utilisation du câble de SCSI autre que celui indiquée ci-dessus n'est pas recommandée. L'exécution de système a lieu guaranteed en mode de LVD seulement.

El uso del cable de SCSI con excepción de ése especificado arriba no se recomienda. El funcionamiento del sistema es guaranteed en modo de LVD solamente.

Der Gebrauch des SCSI-Kabels anders als das oben spezifiziert wird nicht empfohlen. Systemleistung ist guaranteed nur im LVD-Modus.

4. Terminate the SCSI bus.

If the tape drive is at the end of the bus, terminate the drive using the included active terminator, which is Exabyte part number 120.00122 for wide SCSI Ultra2 LVD/SE or equivalent.

5. Connect the power to the RakPak using the supplied AC power cable and turn on both on/off switches on the RakPak.
6. Turn power on to the host computer.

INSTALLING A SECOND VXA-1 TAPE DRIVE

This chapter provides step-by-step instructions for installing a second drive into a RakPak.

UNPACKING THE UNIT

All Exabyte products are tested, inspected, and carefully packaged at the factory; however, shipping damage can occur. Follow the steps below for unpacking the tape drive.



Protect the tape drive from electrostatic discharge by using an antistatic mat and wristband while unpacking and installing the drive. Leave the drive in its packaging until you are ready to install it. Touch a grounded surface before handling the tape drive.

Protégez le système d'entraînement de bande magnétique de la décharge électrostatique en utilisant une natte et un wristband antistatiques tout en éclatant et en installant le lecteur. Laissez le lecteur dans son emballage jusqu'à ce que vous soyez prêt à l'installer. Touchez une surface au sol avant de manipuler le système d'entraînement de bande magnétique.

Proteja el bobinador de la descarga electrostática usando una estera y un wristband antiestáticos mientras que desempaqueta e instala el mecanismo impulsor. Deje el mecanismo impulsor en su empaquetado hasta que usted es listo instalarlo. Toque una superficie puesta a tierra antes de manejar el bobinador.

Schützen Sie das Magnetbandlaufwerk von der elektrostatischen Entladung, indem Sie verwenden eine antistatische Matte und ein wristband beim Entpacken und Installieren des Laufwerks. Lassen Sie das Laufwerk in seinem Verpacken, bis Sie betriebsbereit sind, es zu installieren. Vor der Behandlung des Magnetbandlaufwerks berühren Sie eine geerdete Oberfläche.

1. Visually inspect the shipping container and notify your freight carrier immediately of any damage.

2. Place the shipping container on a flat, clean, stable surface. Carefully remove the tape drive and verify the contents. If parts are missing or the equipment is damaged, notify your supplier or Exabyte.
3. Save the original shipping container and packing materials in case future reshipment is necessary.

INSTALLING THE DRIVE

Turn off the RakPak unit, disconnect it from the host unit, and disconnect the power cable to the unit.

To ensure proper operation, install the drive by following the steps below.

1. Remove the top cover of the RakPak unit by unscrewing all screws at the top of the unit with a small phillips head screwdriver. Take care not to lose the screws as they will be needed to reattach the top of the chassis.
2. Unscrew the panel covering the unused bay. The four screws securing the panel are located on the bottom of the unit. New screws are provided in the RakPak accessory kit to be used when installing a second drive.
3. Remove the panel covering the unused bay.
4. Slide the VXA-1 drive into the open bay. Ensure that the VXA-1 drive bezel is flush against the chassis.
5. Attach the four screws on the underside to secure the drive in place.



Using screws other than M3 x 4 mm Phillips screws, provided with the RakPak, can seriously damage the VXA-1 drives.

L'utilisation visse autre que le M3 X les vis Phillips de 4 millimètres, si avec le Rakpak, peut sérieusement endommager les lecteurs VXA-1.

El usar atornilla con excepción del M3 x los tornillos Phillips de 4 milímetros, con tal que con el Rakpak, puede dañar seriamente los mecanismos impulsores VXA-1.

Das Verwenden schraubt anders als das M3 x die 4-Millimeter-Kreuzkopfschrauben, vorausgesetzt mit dem Rakpak, kann die Laufwerke VXA-1 ernsthaft beschädigen. système d'entraînement de bande magnétique. berühren Sie eine geerdete Oberfläche.

6. Connect the serial port to the back of the VXA-1 drive.
The serial port is the black, 10-pin connector and is keyed for proper installation.
7. Connect the SCSI ID switch cable to the back of the VXA-1 drive.
The SCSI ID switch is the 8-pin connector.

8. Connect the SCSI ribbon cable to the back of the VXA-1 drive.
9. Reattach the RakPak's chassis cover.
10. Set the SCSI ID of the integrated unit to the desired number. To change the SCSI ID, use the + and – tabs above and below the SCSI ID indicator.
11. Terminate the SCSI bus. Termination for wide SCSI Ultra 2 LVD/SE, if required, should be at the drive (part number CCX CEIT 8031MLVD or Exabyte part number 120.00121). If there are additional devices on the SCSI bus, ensure that only the devices at each physical end of the bus are properly terminated.

As a precaution against damage to drive components if the terminator power is shorted, the VXA-1 also contains a resettable positive temperature coefficient (PTC) thermistor terminator power fuse. This fuse automatically resets when the short is removed.

5

VXA-1 TAPE DRIVE OPERATION

This chapter describes the procedures involved with operating the tape drive, defines LED functions, and explains how to clean the tape drive.

USING VXATAPE

The tape drive uses data-quality VXAtape data cartridges, in various lengths, available from Exabyte and authorized sources. These cartridges do not require formatting or other media conditioning before use. Table 10 lists the data capacities for all three VXAtape models.



Caution
Attention
Precaución
Vorsicht

The VXA-1 tape drive only operates with VXAtape cartridges.

Le système d'entraînement de la bande magnétique VXA-1 fonctionne seulement avec des chargeurs de VXAtape.

El bobinador VXA-1 funciona solamente con los cartuchos de datos de VXAtape.

Das VXA-1 Magnetbandlaufwerk funktioniert nur mit VXAtape-Datenkassetten.

Table 10 Data Capacities

VXAtape Model	Capacity, Native	Capacity, Compression (2x compression ratio)	Tape Length
V6	12 GB	24 GB	62 m
V10	20 GB	40 GB	107 m
V17	33 GB	66 GB	170 m

LOADING A VXATAPE

Insert the front of the cartridge through the tape drive door into the loader mechanism. Continue to push the cartridge through the front door until the loader mechanism activates and automatically completes the load process.

Note: The tapered, hinged door of the cartridge (with 70 mm colored bar of red, blue or yellow) is the front of the cartridge and is placed initially through the tape drive door when loading the cartridge into the tape drive. The colored write protect tab (red, blue or yellow) should be closest to the tape drive's eject button.

The tape drive loads the tape in approximately 45 sec, during which time loading LED #2 flashes green. When LED #2 and LED #4 are on with the green LED illuminated, the tape drive is ready to receive commands to begin Write and Read operations.

UNLOADING A VXATAPE

To unload a cartridge, press the Eject button. The tape drive will then complete any command in process, write any buffered information to tape, rewind to the beginning of the tape, and eject the cartridge.

VXATAPE OPERATING CONDITIONS

The temperature and humidity requirements for the VXA drive are determined by the ability of the media to withstand heat, cold, and humidity. When a VXAtape is brought into the room where the VXA drive is located, allow the VXAtape to adjust to room temperature and humidity before using it. If the VXAtape has been brought inside from a particularly hot or cold environment, let it acclimate for at least 24 hours.

Failures that occur only at certain times of the year (e.g., during the winter) may be due to a temperature or humidity control problem. For example, if the VXA drive is being used for regularly scheduled nightly backups, it may be advisable to adjust the nighttime temperature setbacks to keep the heating or air conditioning on until the backup is complete. Table 4 *Temperature and Humidity Specifications*, in Chapter 1, defines the operating condition requirements.

STORAGE AND TRANSPORTATION ENVIRONMENTS

Table 11 lists the recommendations for storing VXAtape. Maintain the temperature and humidity at a steady level within these ranges; limit temperature and humidity fluctuations.

Table 11 Storage and Transportation Conditions

Specification	Storage ^a / Nonoperating	Transportation ^b
Temperature range ^c	+5°C to +32°C (+41°F to 90°F)	-40°C to +45°C (-40°F to 113°F)
Temperature variation	1°C per min; max.	1°C per min; max.

	20°C per hour (2°F per min; max. 36°F per hour)	20°C per hour (2°F per min; max. 36°F per hour)
Relative Humidity	20% to 60% non-condensing	5% to 80% non-condensing
Wet bulb	26°C (79°F) max.	26°C (79°F) max.
Altitude	-305 to 3050 m (-1,000 to 10,000 ft)	-305 to 12,200 m (-1,000 to 40,000 ft)

^a The data cartridge temperature and humidity must be stabilized in the specified environment for at least 24 hours.

^b The VXA tape is in its original shipping container. When the VXA tape is moved from a cooler storage environment to a warmer operating environment, it must acclimate its packaging for up to 24 hours to prevent damage from condensation.

^c Temperature measurements are made in the tape path.

If VXA tapes are stored properly, you can expect to successfully recover data from them for 30 years. Be aware that the 30-year storage life is for an archival tape, not a tape being used for daily backups. Do not expect to use a single VXA tape to perform daily backups for 30 years.

As a general rule, use a new (or relatively unused) VXA tape to store any critical data you may need to recover many years from now. Do not use a VXA tape that has reached its retirement point. For routine backups that get overwritten each day or week, it is acceptable to reuse VXA tapes until they are ready for retirement.

Proper storage of VXA tape helps prevent media-related problems. To ensure a storage period of 30 years, follow these guidelines:

1. Remove the VXA tape from the VXA drive and store it as soon as possible after you have finished writing or reading data. Avoid handling the VXA tape excessively. Never open the VXA tape door or touch the tape.
2. Label each VXA tape.
3. Set the VXA tape write-protect switch to prevent accidental over-writing by moving the red (or blue or yellow) switch to the 'Save' position. (If the switch is NOT covering the opening on the edge of the cartridge, the tape is write-protected. Use a pen or small screwdriver to move the switch.)
4. Keep each VXA tape in its protective case or a container designed for VXA tape storage.
5. Store VXA tape away from copiers and printers to avoid contamination by toner and paper dust.
6. Store VXA tape away from objects or devices that emit strong magnetic fields.
7. Store VXA tape in an area where the temperature and humidity are comfortable and relatively constant. Check the temperature and humidity recommendation on the VXA tape packaging. If you move cartridges between areas in which temperature humidity differ greatly, allow the VXA tape to adapt for at least 24 hours before using it in a VXA-1 tape drive.

OBTAINING VXATAPE MEDIA

To purchase VXAtape media, contact an authorized reseller or the Exabyte Corporation at:

www.exabyte.com

Exabyte Corporation
1685 38th Street
Boulder, Colorado 80301
USA

Telephone: (303) 442-4333

MONITORING THE LEDs

The VXA-1 tape drive contains four LEDs to indicate its operational status. Table 12 provides detailed LED information.

Table 12 Front Bezel LED Definitions

OPERATION	LED Pattern	LED #1 	LED #2 	LED #3 	LED #4 
Power On Self Test (LEDs illuminate sequentially)	See NOTE 1				
No Tape Loaded		OFF	OFF	OFF	GREEN
SCSI Activity (LED 4 may flash with other LED operations)		OFF	OFF	OFF	Flashing GREEN
Tape Loading or Unloading		OFF	Flashing GREEN	OFF	Light GREEN
Tape Ready, Idle		OFF	GREEN	OFF	Light GREEN
Reading		OFF	OFF	GREEN	Flashing GREEN
Writing		OFF	OFF	AMBER	Flashing GREEN
Space Forward		OFF	OFF	Flashing GREEN	Light GREEN
Space Reverse or Rewinding		Flashing GREEN	OFF	OFF	Light GREEN
Cleaning in Process		Flashing GREEN	OFF	Flashing GREEN	Light GREEN

SERVICE NOTIFICATION					
Cleaning Required (Insert VXA tape Cleaning Cartridge)		OFF	Flashing AMBER	OFF	Light GREEN
Cleaning tape used up (Install a new cleaning cartridge)		OFF	Flashing AMBER and GREEN	OFF	Light GREEN
Recoverable error (Retry the operation. If problem persists, gather an Exabyte Tool log for analysis. See Note 3.)		AMBER	GREEN	AMBER	Light GREEN
Unrecoverable error (Use Exabyte Tool to get a log of the problem. Retry the operation. If problem persists try power cycling the drive to clear the error. See Note 3.)		AMBER	OFF	AMBER	Light GREEN
Factory Service Required (Use Exabyte Tool to get a log of the problem. See Note 3.)		NOTE 2	NOTE 2	NOTE 2	Flashing RED
Broken tape		Flashing GREEN / AMBER	OFF	Flashing GREEN / AMBER	Light GREEN
Format recovery (see Note 7.)		OFF	OFF	Flashing GREEN / AMBER	Light GREEN
Tape Path Over temperature		OFF	OFF	OFF	ORANGE
SELF TEST					
Self-test passed.		GREEN	GREEN	GREEN	LIGHT GREEN
Self-test running		NOTE 4	NOTE 4	NOTE 4	LIGHT GREEN
Self-test failed. See NOTE 5.		AMBER	AMBER	AMBER	LIGHT GREEN

FSC Display					
FSC Display		NOTE 6	NOTE 6	NOTE 6	NOTE 6

KEY: Flashing LED's = 

Lower intensity = 

NOTE 1: For power on self-test, the LED's scroll sequentially right to left then left to right in amber and green. LED 4 illuminates in red and green. When POST is completed, LED 4 is illuminated in green.

NOTE 2: LED's 1, 2 or 3 may be illuminated green, amber, or off. LED 4 will Flash RED. Return the VXA-1 drive for Service.

NOTE 3: To get a log of a problem with Exabyte Tool, you may download Exabyte Tool from www.Exabyte.com/support

Note 4: LED pattern will be a fast scrolling in green while the test is running.

NOTE 5: If a self-test failure occurs, clean the drive with a VXAtape cleaning cartridge. If the failure still occurs, try a new tape.

NOTE 6: To invoke the FSC display, hold the eject (unload) button for 3 seconds. This will display the most recent drive fault symptom code to be displayed in hex. The high order digit is displayed by LED's 1-4 in green and the low order digit is displayed by LED's 1-4 in amber. After displaying the high and low order digits and pausing for 1 second the display will show the previous FSC. After another 1 second pause, the 3rd oldest FSC is displayed. A 2-second pause and the display start over looping the display 5 times. After five iterations, the drive goes back to a normal state.

The start of the FSC display sequence is designated by all four LED's on green for .3 seconds. The end of sequence is designated by all for LED's on amber for .3 seconds.

If you do not wish to view the 5 loop iterations, just briefly press the unload button, or load a tape to cancel the operation.

NOTE 7: Format recovery occurs when a tape was written without a valid EOD. This may be the result of the VXA-1 drive being powered down while the drive was writing. Format recovery involves reading the data to determine where end of data is. This may take 2-3 hours to complete depending on how much data was written to tape.

DATA COMPRESSION

Data compression is the technology that reduces the number of bits used to represent data. Compression increases the data transfer rate, as well as minimizes the amount of storage space consumed by the data.

The VXA-1 tape drive uses the ALDC (Adaptive Lossless Data Compression) algorithm and integrated circuit chip. The ALDC algorithm is compliant with the European Computer Manufacturers Association (ECMA) standard.

VXA-1 data compression default setting is ON. To disable compression use Exabyte Tool.

VXA-1 CLEANING

Regular cleaning can help maintain top performance of the VXA-1 tape drive. Cleaning is required because circulating air introduces debris into the tape path. In addition, friction polymer, referred to as brown stain, may develop on the recording heads in low-humidity environments. If debris and brown stain build up on the heads, error rates increase and backups take longer because the tape drive has to rewrite the data. Place your VXA-1 drive away from sources of contamination and follow the recommendations for temperature and humidity in the operating environment.

The VXA-1 tape drive includes an internal cleaning wheel to remove contamination from the tape path for optimal drive availability. However, Exabyte recommends you clean your VXA-1 tape drive regularly to maximize the reliability of your drive and the life of your VXA-tape. The following sections explain how to determine when to clean the tape drive, and provide instructions for using the VXA-tape Cleaning Cartridge.

DETERMINING WHEN TO CLEAN THE TAPE DRIVE

When the tape drive requires cleaning, LED #2 flashes amber. The tape drive should be cleaned as soon as possible after this LED begins flashing.



Note
Notent
Observan
Beachten

Some software applications may notify you that the tape drive requires cleaning. Refer to your software documentation for more information.

Quelques applications de logiciel peuvent vous informer que le système d'entraînement de bande magnétique exige le nettoyage. Référez-vous à votre documentation de logiciel pour plus d'information.

Algunas aplicaciones del software lógica pueden notificarle que el bobinador requiere la limpieza. Refiera a su documentación del software lógica para más información.

Einige Software-Anwendungen können Sie benachrichtigen, daß das Magnetbandlaufwerk Reinigung benötigt. Sprechen Sie Ihre Software-Unterlagen zu mehr Information an.

The tape drive cleaning requirements depend on the number of tape motion hours and type of tape being used. The tape drive keeps track of tape motion hours internally and monitors the type of tape being used.



Exabyte recommends preventative cleaning of the VXA-1 after every 70 hours of use.

Exabyte recommande le nettoyage préventif du VXA-1 après toutes les 70 heures d'utilisation.

Exabyte recomienda la limpieza preventiva del VXA-1 después de cada 70 horas del uso.

Exabyte empfiehlt vorbeugende Reinigung des VXA-1 nach alle 70 Stunden des Gebrauchs.

VXATAPE CLEANING CARTRIDGES

To clean your VXA-1 tape drive, use only VXAtape Cleaning Cartridges or other cleaning cartridges approved by Exabyte for use with the VXA-1 drives.



Do not use any cleaning method other than the VXAtape Cleaning Cartridge (or cleaning cartridge approved by Exabyte for use with VXA drives). The use of other cleaning methods not approved by Exabyte may void the tape drives warranty.

N'utilisez aucune méthode de de nettoyage autre que la carte de nettoyage de VXAtape (ou la carte de nettoyage a approuvé par Exabyte pour l'usage avec des lecteurs de VXA-1). L'utilisation d'autres méthodes de de nettoyage non approuvées par Exabyte peut vider la garantie du système d'entraînement de bande magnétique.

No utilice ningún de limpieza método con excepción el de VXAtape del cartucho de limpieza (o cartucho de limpieza aprobado por Exabyte para el uso con los mecanismos impulsores de VXA-1). El uso de otros métodos de limpieza no aprobados por Exabyte puede anular la garantía del bobinador.

Verwenden Sie keine Reinigungsmethode anders als die VXAtape-Reinigung Kassette (oder Reinigung Kassette genehmigte durch Exabyte für Gebrauch mit VXA-Laufwerken). Der Gebrauch von anderen Reinigungsmethoden, die nicht von Exabyte genehmigt werden, kann die Garantie des Magnetbandlaufwerks aufheben. Exabyte recommends preventative cleaning of the VXA-1 after every 70 hours of use.

To purchase VXAtape Cleaning Cartridges, contact an authorized reseller or the Exabyte Corporation at:

www.exabyte.com
Exabyte Corporation
1685 38th Street
Boulder, Colorado 80301
USA
Telephone: (303) 442-4333

Cleaning Cartridge Use

To use the cleaning cartridge, follow these steps:

1. Apply power to the tape drive and wait for the power-on self test to complete.
2. Insert the cleaning cartridge into the tape drive. The cleaning cycle is performed automatically and takes less than 1 min. When the cleaning cycle is complete, the tape drive ejects the cleaning cartridge.



Note
Notent
Observan
Beachten

If there are no more cleaning cycles remaining on the cleaning cartridge, the tape drive ejects the cartridge without performing the cleaning and LED #2 flashes green and amber.

S' il n'y ont plus de cycles de nettoyage restants sur la carte de nettoyage, le système d'entraînement de bande magnétique éjecte la cartouche sans exécuter le nettoyage de Th et d'instantanúx de DEL #2 le vert et jaune.

Si no hay ciclos de limpieza restantes en el cartucho de limpieza, el bobinador expulsa el cartucho sin la ejecución de la limpieza del th y del verde y del amarillo de los flashes del LED #2.

Wenn es keine mehr Reinigung Schleifen gibt, die auf der Reinigung Kassette restlich sind, stößt das Magnetbandlaufwerk die Kassette aus, ohne Threinigung und das Blitzgrün und -cGelb LED #2 durchzuführen.

3. Confirm that a cleaning was completed by verifying that LED #2 is not flashing green and amber.
4. Store the cleaning cartridge for future use if there is cleaning material remaining; discard it if no cleaning material remains.



Caution
Attention
Precaución
Vorsicht

Do not rewind and reuse the material in a cleaning cartridge. Reuse may redistribute contaminants previously removed from the tape path. If all the cleaning material has been used, discard the cartridge and use a new cleaning cartridge.

Ne rebobinez pas et ne réutilisez pas le matériel dans une carte de nettoyage. La réutilisation peut redistribuer des contaminants précédemment retirés de la voie d'accès de bande. Si tout le produit de nettoyage de nettoyage a été utilisé, jetez la cartouche et utilisez une nouvelle carte de nettoyage.

No rebobine y no reutilice el material en un cartucho de limpieza. La reutilización puede redistribuir los contaminantes quitados previamente del camino de cinta magnética. Si se ha utilizado todo el producto de limpieza, deseche el cartucho y utilice un cartucho de limpieza nuevo.

Rückspulen Sie nicht und verwenden Sie das Material in einer Reinigung Kassette wieder. Wiederverwendung kann die Verschmutzer neuverteilen, die vorher vom Bandpfad gelöscht werden. Wenn das ganzes Putzmittel benutzt worden ist, werfen Sie die Kassette und benutzen Sie eine neue Reinigung Kassette.

SCSI INTERFACE

This chapter provides general information on SCSI specifications.

SCSI CONFIGURATION

The VXA-1 drives used within the RakPak are wide SCSI Ultra 2 LVD/SE.

Table 13 provides pin assignments for wide SCSI Ultra 2 LVD/SE connectors.

Table 13 Pin Assignments

Signal	Pin	Pin	Signal
Signal Return	1	2	-DB(12)
Signal Return	3	4	-DB(13)
Signal Return	5	6	-DB(14)
Signal Return	7	8	-DB(15)
Signal Return	9	10	-DB(P1)
Signal Return	11	12	-DB(0)
Signal Return	13	14	-DB(1)
Signal Return	15	16	-DB(2)
Signal Return	17	18	-DB(3)
Signal Return	19	20	-DB(4)
Signal Return	21	22	-DB(5)
Signal Return	23	24	-DB(6)
Signal Return	25	26	-DB(7)
Signal Return	27	28	-DB(8)
Ground	29	30	Ground
Ground	31	32	Ground
TERMPWR	33	34	TERMPWR
TERMPWR	35	36	TERMPWR
Reserved	37	38	Reserved
Ground	39	40	Ground
Signal Return	41	42	-ATN
Ground	43	44	Ground

Signal Return	45	46	-BSY
Signal Return	47	48	-ACK
Signal Return	49	50	-RST
Signal Return	51	52	-MSG
Signal Return	53	54	-SEL
Signal Return	55	56	-C/D
Signal Return	57	58	-REQ
Signal Return	59	60	-I/O
Signal Return	61	62	-DB(8)
Signal Return	63	64	-DB(9)
Signal Return	65	66	-DB(10)
Signal Return	67	68	-DB(11)

SCSI COMMAND USAGE

The Request Sense command returns sense information valuable in determining the type of abnormal condition that caused a Check Condition to be flagged.

The Inquiry command returns information concerning the identity of the device, microcode level, and version of SCSI supported by the device.

The Mode Sense command returns the operating parameters of the drive. The parameters may be altered using the Mode Select command.

The Write command transfers data to tape. Data may be written in either fixed- or variable-sized blocks. Variable blocks may be of any size between 2 bytes and 245,760 (240k, 3C000h) bytes. Fixed-size blocks (as set by the Mode Select command) must be less than or equal to 240k, but must also be on a 4-byte boundary (that is, the count must be evenly divisible by 4: 4, 8, 12, ...).

The Read command transfers data from tape to the initiator. The drive recognizes fixed and variable blocks and can read them in any combination. Transfer block sizes have the same restrictions as for the WRITE command.

The Space and Locate commands are used to search for data, either forward or backward.

The Erase command erases all data from the current logical position to the end of the current partition.

The Log Sense command can be used to retrieve the drive's read and write error counters. Threshold values for the counters may be altered using the Log Select command.

The Send Diagnostic command performs tests to determine the precise operating condition of the drive. Results of the tests are obtained using the Receive Diagnostic Results command.

The device microcode can be updated using the Write Buffer command.

TROUBLESHOOTING

This chapter describes problems that could be encountered while operating the RakPak. These problems can be divided into two categories: operating problems or read/write problems.

Operating problems include any conditions that prevent the tape drive from operating. These problems are usually encountered the first time the drive is installed on a system, or when the system is changed.

Read/write problems include conditions that affect the transfer of data to and from the tape drive. Commands such as Rewind, Request Sense and Unload perform normally, but data transfers fail.

The following procedures are recommended for solving operating and read/write problems.

OPERATING PROBLEM

Problem: The tape drive will not accept a cartridge.

If using a 2-drive RakPak, ensure that the unaffected drive is idle and unloaded. For the affected drive, remove the VXAtape and power down the drive. Wait 10 sec, then turn the drive back on. Observe the drive for a normal power-on LED code sequence.

If the tape LED is on, a VXAtape may already be in the drive. Press the Eject button to remove the tape.

If the LEDs do not light, check the RakPak AC power cable connection. If the drive completes the power-on sequence normally but still will not accept the VXAtape, the drive may be defective.

Check whether power to the drive was interrupted while a VXAtape was loaded. The drive will detect the tape when power is restored and rewinds the tape to beginning of tape (BOT). Press the Eject button, remove the VXAtape, and begin the session again.

Problem: It is necessary to reset the VXA-1 drive.

There are three ways to reset the VXA-1 drive:

1. Send a bus device reset (0Ch) to direct the drive to clear all input/ output (I/O) processes on that SCSI bus.
2. Send a SCSI bus reset or SCSI device reset.
3. Turn off the tape drive and turn it on again.

Problem: A tape is in the drive and will not eject.

If the SCSI command Prevent Allow Media Removal has been sent to the drive (with the prevent bit set to 1), the cartridge will be retained in the drive even after an Unload command is issued. The Eject button will also be disabled. Send a Prevent Allow Media REMOVAL (with prevent bit clear) command, issue a SCSI bus reset, device reset, or power the RakPak off and back on to override this condition.

If the VXAtape is still in the drive after following the above procedure, the RakPak may be defective and should be returned for repair with the tape in place. The VXAtape will be removed and returned to you.

If it is absolutely mandatory that the tape cartridge be removed prior to returning the drive for repair, the Emergency VXAtape Removal procedure listed below should be followed:



This procedure should only be attempted in extreme circumstances because the tape is often irretrievably damaged during removal. Exabyte recommends returning the drive to service for removal of the stuck VXAtape. It is recommended that you do not proceed; further damage to the tape may occur.

Ce procédé devrait seulement être essayé dans des circonstances extrêmes parce que la bande souvent est inaccessible endommagée pendant le déplacement. Exabyte recommande de renvoyer le lecteur au service pour le déplacement du VXAtape coincé. On lui recommande que vous ne procédiez pas, d'autres dommages à la bande peut se produire.

Este procedimiento se debe procurar solamente en circunstancias extremas porque la cinta a menudo se daña irrecuperable durante el retiro. Exabyte recomienda el volver del mecanismo impulsor al servicio para el retiro del VXAtape pegado. Se recomienda que usted no procede, otra daños a la cinta puede ocurrir.

Diese Prozedur sollte unter extremen Umständen nur versucht werden, weil das Band häufig unwiederbringlich während des Abbaus beschädigt wird. Exabyte empfiehlt sich, das Laufwerk zum Service für Abbau des gehafteten VXAtape zurückzubringen. Es wird, daß Sie nicht fortfahren, weitere Beschädigung des Bandes kann auftreten empfohlen.

1. Remove the drive from the chassis or enclosure to allow access to the bottom and right side of the drive.
2. Remove the drive's top cover by depressing the two clips on each side of the cover and sliding the cover approximately 5 mm (0.2 in.) to the rear.
3. Hold the drive in your left hand, bezel facing you, with the top of the drive to your left.
4. Locate the oval tape path mechanical access hole with a brass wheel (approximately 10 mm diameter) in the bottom of the drive, located at the front center.
5. Insert the tip of a pointed object in this hole and rotate the brass wheel counter-clockwise to remove slack from the tape by winding the media onto the VXA tape take-up reel.
6. Insert a Phillips head screwdriver in the 10 mm round hole in the right rear side of the tape drive, located 5 cm (2 in.) from the rear of the drive. Rotate the load motor clockwise to unwind the tape path mechanism. Unwind the mechanism until tape slack appears.



Caution
Attention
Precaución
Vorsicht

Steps 5 and 6 may need to be repeated up to 10 times to minimize the risk of tape damage.

Étapes 5 et 6 peuvent devoir être répétées jusqu'à 10 fois de réduire au minimum le risk des dommages de bande.

Los pasos de progresión 5 y 6 pueden necesitar ser relanzado hasta 10 veces de reducir al mínimo el risk del daño de la cinta.

Jobsteps 5 und 6 können wiederholt werden müssen bis 10mal, das risk der Bandbeschädigung herabzusetzen.

7. When the tape is completely rewound into the VXA tape cartridge, turn the load motor clockwise until the VXA tape cartridge is lifted out of the drive mechanism and ejected.
8. Return the drive to Exabyte or an authorized service provider for repair.

Problem: The drive powers up properly, loads and unloads tapes, but will not respond to any SCSI commands.

If a SCSI bus reset does not cause the drive to reset (same as power-on self test):

1. Check the SCSI cable connectors.
2. Check to ensure the drive is set for the proper SCSI ID number.
3. Check for a broken SCSI cable or defective connector.
4. Check to ensure SCSI cable Pin 1 is aligned with SCSI connector Pin 1.

If a SCSI bus reset causes the drive to reset, then the problem is with the SCSI bus addressing or termination.

1. Check the SCSI bus addressing and termination.
2. Check for bent SCSI cable pins.
3. Try another known good SCSI device in the same location.

READ/WRITE PROBLEMS

To prevent read/write errors, always clean the tape heads if LED #2 is flashing amber. Use only an Exabyte-approved VXA Cleaning Cartridge.

If a read/write error occurs, a combination of the following steps should correct the problem.

1. Eject the tape; reinsert it and try again.
2. Clean the drive with an Exabyte-approved VXA cleaning cartridge.
3. Load a new tape in the drive and try again.



Note
Notent
Observan
Beachten

If these steps do not correct the problem, the drive may be damaged and should be returned to Exabyte or an Exabyte-authorized service provider for service. Contact Exabyte Technical Support for telephone assistance before returning the tape drive for service.

Si ces étapes ne corrigent pas le problème, le lecteur peut être endommagé et devrait être retourné à Exabyte ou à un fournisseur de service Exabyte-authorized pour le service. Entrez en contact avec le soutien technique d'Exabyte de l'aide de téléphone avant de renvoyer le système d'entraînement de bande magnétique pour le service.

Si estos pasos de progresión no corrigen el problema, el mecanismo impulsor se puede dañar y se debe volver a Exabyte o a un abastecedor de servicio Exabyte-authorized para el servicio. Entre en contacto con la ayuda técnica de Exabyte para la ayuda del teléfono antes de volver el bobinador para el servicio.

Wenn diese Jobsteps nicht das Problem beheben, kann das Laufwerk beschädigt werden und sollte zu Exabyte oder zu einem Exabyte-authorized Dienstbringer für Service zurückgegangen werden. Treten Sie mit technischem Support Exabyte für Telefonunterstützung in Verbindung, bevor Sie das Magnetbandlaufwerk für Service zurückbringen.

VXATAPE ERRORS

If your backup software reports a tape error, one of the following situations may have occurred:

- ◆ The VXA drive needs cleaning. Always try cleaning the VXA drive before you assume the tape is bad. Be sure to use a VXAtape Cleaning Cartridge.
- ◆ The cartridge is incompatible with the VXA drive. Ensure you are using a VXAtape.
- ◆ If you are trying to write data, the VXAtape may be write-protected. Check the switch on the edge of the VXAtape. If the switch does not cover the opening, the tape is write-protected. If the switch covers the opening, you can write to the tape. Use a pen or small screwdriver to move the switch.
- ◆ The VXAtape is not inserted properly in the drive. Remove the tape, then reinsert it and retry the operation.



Note
Notent
Observan
Beachten

If these steps do not correct the problem, contact your reseller or Exabyte Technical Support.

Si ces étapes ne corrigent pas le problème, entrez en contact avec votre revendeur ou support technique d'Exabyte.

Si estos pasos de progresión no corrigen la problema, entre en contacto con su revendedor o ayuda técnica de Exabyte.

Wenn diese Jobsteps nicht das Problem beheben, treten Sie mit Ihrem Reseller oder technischen Support Exabyte in Verbindung.

RETURN PACKAGING

The unit should be returned in its original packaging. Exabyte is not responsible for shipping damage caused by an improperly packaged RakPak.

Before returning a RakPak for service, contact Exabyte or the Exabyte-authorized service provider for return authorization and shipping instructions.